

Work Order ID 71178

Thursday, June 23, 2011 11:15:45 AM



Page 1

Item ID:	D6103-003	Accept		Setup	Start	
Revision ID:					Stop	
Item Name:	Round Billet, Aluminum					
Start Date:	6/23/2011	Start Qty:	16.00		Cust Item ID:	
Required Date:	7/5/2011	Req'd Qty:	16.00		Customer:	
Reference:						

Approvals:	Process Plan:	<u>CL</u>	Date:	<u>11/06/23</u>	Tooling:		Date:		Run	Start	
	QC:		Date:		SPC (Y/N):		Date:			Stop	

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D6103	Rev B								

100		0.00	
	PURCHASING		<u>CL 11/06/24</u> <u>(16)</u>

Purchasing

Memo

Issue P/O: 14367 ☐ a) Description: Alluminum round billet ☐ b) Ø3.500" x 12.500" long ☐ c) Tolerance on all dimensions are +0.030"/-0.000"

☐ d) Material: 7075-T7351 (QQ-A-225/9) ☐ Material certification required

110	Receive & Inspect for Damage & Mat'l Certs	0.00	
			<u>16/7/8</u> <u>(16)</u>
Packaging	Memo	0.00	
Packaging	Ensure material certification is attached		

120	QC6- Inspect dimensions to drawing	0.00	
			<u>16</u> <u>8</u>
QC	Memo	0.00	
Quality Control			

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 71178

Thursday, June 23, 2011 11:15:45 AM



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Item ID: D6103-003

Accept



Setup Start



Revision ID:

Stop



Item Name: Round Billet, Aluminum

Start Date: 6/23/2011 Start Qty: 16.00



Cust Item ID:

Required Date: 7/5/2011 Req'd Qty: 16.00



Customer:

Reference:

Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start



QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

130

Identify as per dwg & Stock Location: *MAT 41*

0.00

only 11/07/08

Packaging

Memo

0.00

16 *✓*

Packaging

140

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

11/7/11 *[Signature]**MF*
11-07-08

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Thursday, June 23, 2011 11:15:43 AM

Page 1

Work Order ID: 71178



Parent Item: D6103-003



Parent Item Name: Round Billet, Aluminum


Start Date: 6/23/2011

Required Date: 7/5/2011

Start Qty: 16.00

Required Qty: 16.00

Comments: IPP Rev:A New Issue 06-02-09 JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6103-003P  round alum billet		Purchased	No			110	Each	0.0000	1	16		6/23/8	(16)

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

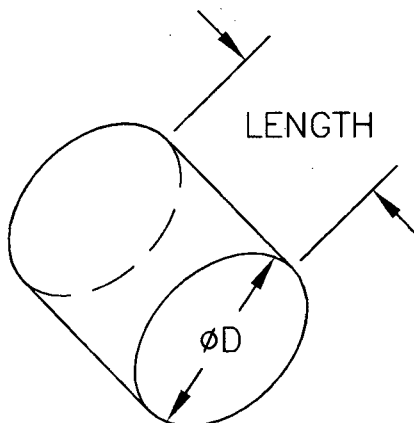
NOTE: Date & initial all entries



DESIGN P41	DRAWN BY P41	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED HKS	APPROVED HKS	DRAWING NO. D6103	Rev. B SHEET 1 OF 1
DATE 06.01.31		TITLE ROUND BILLET, ALUMINUM	SCALE NTS
A	01.04.10	NEW ISSUE	
B	06.01.31	ADD D6103-003	

SPECIFICATION CONTROL DRAWING

RELEASED
06.02.07 HKS



SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 71178
CL 11/04/23

PURCHASE MATERIAL ACCORDING TO THE FOLLOWING TABLE. SPECIFY ALLOY, DIAMETER x LENGTH (+0.030/-0.000) AS SHOWN.

TOLERANCE ON ALL DIMENSIONS IS +0.030/-0.000.

ALL DIMENSIONS ARE IN INCHES.

Part No.	Alloy	D (Diameter)	Length
D6103-001	7075-T6/T651 (QQ-A-200/11 OR QQ-A-225/9)	Ø3.250	12.50
D6103-003	7075-T7351 (QQ-A-225/9)	Ø3.500	12.50

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Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO14367**

Purchase Order Date 6/24/2011

PO Print Date 6/24/2011

Page Number 1 of 2

Order From :

VC-MET001

METAUX CASTLE
A.M. CASTLE & CO. (CANADA) INC. - BOX B9204 PO BOX 9100
TORONTO, ON M4Y 3A5
CA

Contact Name

Buyer

Chantal Lavoie

Vendor Phone

514 694 9575

Requisition Nbr

Vendor Fax

514 695 3281

Tax Resale Nbr

10127-2607

Vendor Account Nbr

Terms

Net 30

Currency

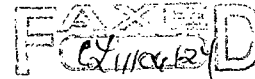
CAD

FOB

Destination-Collect

Ship To :

DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA



Line Nbr	Reference Revision ID Vendor Part Number	Description/ Mfg ID	Req Date/ Taxable	Req Qty/ Unit of Measure	Ship Method	Unit Price	Extended Price
1	D6103-003P	round alum billet	7/11/2011 Yes	16.00 Each	Yours ppd	\$65.0000	\$1,040.00
		Special Inst:	AS PER DWG D6103 REV. B B71178 MATERIAL: 7075-T7351 AS PER QQ-A- 225/9 SIZE: 3.500" X 12.500" LONG TOLERANCE ON ALL DIMENSION ARE +0.030"/-0.000"				
2	D6104-005P	17-4 SS Roundbar 4.00"OD	7/11/2011 Yes	12.00 Each	Yours ppd	\$76.0000	\$912.00
		Special Inst:	AS PER DWG D6104 REV. B B71179 MATERIAL: 17-4PH AS PER AMS 5643 OR AISI 630 SIZE: 4.00" X 5.10" LONG TOLERANCE AS ABOVE				
3	D6104-007P	17-4 SS Roundbar 4.50"OD	7/11/2011 Yes	12.00 Each	Yours ppd	\$80.0000	\$960.00

PO Instructions:

PLEASE ADVISE PRICES \$\$\$\$\$\$\$\$\$\$

No substitution or deviation without
consent.
Certificate of Conformity or Material
Certification required when applicable

Change Nbr: 1

Change Date: 6/24/2011



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO14367**

Purchase Order Date 6/24/2011

PO Print Date 6/24/2011

Page Number 2 of 2

Order From :

VC-MET001

METAUX CASTLE
A.M. CASTLE & CO. (CANADA) INC. - BOX B9204 PO BOX 9100
TORONTO, ON M4Y 3A5
CA

Contact Name		Buyer	Chantal Lavoie
Vendor Phone	514 694 9575	Requisition Nbr	
Vendor Fax	514 695 3281	Tax Resale Nbr	10127-2607
Vendor Account Nbr		Terms	Net 30
		Currency	CAD
		FOB	Destination-Collect

Special Inst: AS PER DWG D6104 REV. B
B71182
SIZE: 4.50" X 5.10" LONG
MATERIAL & TOLERANCE AS ABOVE

PO Total: \$2,912.00

MATERIAL CERTIFICATION
REQ'D UPON DELIVERY

PO Instructions: PLEASE ADVISE PRICES \$\$\$\$\$\$\$\$\$\$\$\$

Change Nbr: 1

Change Date: 6/24/2011

No substitution or deviation without
consent.
Certificate of Conformity or Material
Certification required when applicable

**Castle Metals®**

A. M. Castle & Co.

PACKING SLIP

Page 1 of 1

Shipment No:880990

Ship From: A. M. Castle & Co. (Canada) Inc. MONTREAL 835-SELKIRK AVENUE POINTE CLAIRE, QUEBEC H9R 3S2		Sold To: DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA		Ship To: DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA		Deliver To: DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA	
Date Shipped 06-JUL-2011	F.O.B. ORIGIN	Freight Terms Prepaid		Carrier MANITOULIN		BOL No 880990-2	

Shipment Details	Final Destination Branch - MON
-------------------------	---------------------------------------

Order No 1553887	Line No 1	Item No 8808.MO	Description 3.5000..RD.7075.T7351.ALUMINUM.CF.144.0000 CUT TO 12.5 IN (+ .1250/- .0000 IN) - BAND SAW CUTTING SPECIFICATIONS: QQ-A-225/9				
Purchase Order No 14367		Part Number YOUR ITEM NUMBER: D6103-003		Ordered Qty 16 PCS		Invoice Qty 16 PCS	
Details							
Delivery No. 84610331	Mill	Heat Number MA011004085	Mech Id	PCS 16	Width (IN)	Length (IN)	Shipped Qty(LBS) 194.01

These commodities/technologies are subject to US Export Administration & US State Dept. Regulations and, if intended for export, were/are exported thereunder. Diversion contrary to US Law is Prohibited.	
We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming a part of the description. Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle & Co. within 60 days of the shipment. Material cut to the correct size, or material cut by the customer cannot be returned for credit.	
Reviewed by Authorized Castle Metals Representative:	Date:

Certified Inspection Report

05/25/11
09:30:29

Alcoa Inc.
Massena Operations
Park Avenue East, Massena, NY 13662



Customer
Castle A M & Co

Customer P.O. No.
109532

Customer Part No.
(8808)

Alcoa Order No.
MMC-97150- -002

Govt. Contract No.

Actual Started Chemistry

LOT/WORK ORDER		%SI	%FE	%CU	%MN	%MG	%CR	%ZN	%TI	%OE	%OT	%AL			
MA011003332	MAX	0.08	0.15	1.6	0.02	2.5	0.20	5.7	0.02	LT 0.05	LT 0.15	Rem			
	MIN	0.06	0.12	1.4	0.01	2.3	0.20	5.5	0.02						
MA011003333	MAX	0.08	0.12	1.6	0.02	2.5	0.20	5.7	0.02	LT 0.05	LT 0.15	Rem			
	MIN	0.07	0.12	1.4	0.02	2.3	0.20	5.5	0.02						
MA011004085	MAX	0.08	0.15	1.6	0.02	2.5	0.20	5.7	0.02	LT 0.05	LT 0.15	Rem			
	MIN	0.06	0.12	1.4	0.01	2.3	0.20	5.5	0.02						

NOTES:

Mercury is not a normal contaminant in aluminum alloys and neither it nor any of its compounds are used in the manufacture of our product.
This alloy meets the requirements of EU 2002/95/EC (RoHS) and EU 2000/53/EC for lead, mercury, cadmium and hexavalent chromium.

Castle Metals FP

HEAT NUMBER MA011004085
MECHANICAL ID _____
ITEM CODE 8808
LOT NUMBER _____
PO NUMBER 109532
RECEIPT DATE 5-31-2011
SUPPLIER ALCOA
SPECIFICATION _____
LCS NO
COMMENT _____
APPROVED DL

Certified Inspection Report

05/25/11
09:30:29

Alcoa Inc.
Massena Operations
Park Avenue East, Massena, NY 13662



*Customer

Castle A M & Co

Customer P.O. No.
109532

Customer Part No.
(8808)

Alcoa Order No.

MMC-97150- -002

Govt. Contract No.

Ship To **A. M. Castle & Company**
3400 North Wolf Road
Bay #7
Franklin Park, IL 60131

We hereby certify that the material covered in this report has been inspected in accordance with, and has been found to meet the applicable requirements described herein, including any specifications forming a part of the description and that samples representative of the material met the composition limits and have the mechanical properties shown on the face of this sheet. Manufactured under an ISO/QS-9000 registered quality management system.
Melted and manufactured in the USA.

Thomas J. Klemp, Quality Assurance Manager

Thomas J. Klemp

Date Shipped **05/25/11**

Weight Shipped **10.104 lbs**

Alloy - Temper **7075-T7351**

Size **3.50000 IN**

Product **CFRB-CF ROD Specific Length**

Shape **DIA** Config **12 FT**

BOL **000159457**

QRR

Specifications:

A97075-11 Rev 10 w/exc & comments per T
Klemp email dtd 1/5/10
Material conforms to T73 requirements
Minimum mechanical properties to apply:
68 KSI Tensile Strength
56 KSI Yield Strength
10% Elongation
AMS 4124D (Except Size)
QQA-225/9E (Except Size)
ASTM B211-03 (Except Size)
AMS-QQA-225/9 (Except Size)

Product produced and marked to the requirements of AMS-QQ-A-225/9 also meets the requirements of QQ-A-225/9.
Product produced and marked to the requirements of QQ-A-225/9 also meets the requirements of AMS-QQ-A-225/9.

TEST REQUIREMENTS		Test	Test	Test	Test	Test	Test	Test	Test	Test
		U.T.S.	T.Y.S.	%Elong	Cond					
Max:			67.9							
Min:		68.0	56.0	10.0	38.0					

Test Results		Test	Test	Test	Test	Test	Test	Test	Test	Test
		U.T.S.	T.Y.S.	%Elong	Cond					
Lot / Work Order	No. of Tests									
MA011003332	1	Max: 72.3	61.2	15.0	41.7					
		Min: 72.3	61.2	15.0	41.7					
MA011003333	1	Max: 71.0	59.4	15.0	41.4					
		Min: 71.0	59.4	15.0	41.4					
MA011004085	1	Max: 72.3	61.0	15.0	40.9					
		Min: 72.3	61.0	15.0	40.9					

TEST ABBREVIATIONS

U.T.S. Ultimate Tensile Strength KSI
Cond Conductivity % IACS

T.Y.S. Tensile Yield Strength KSI

%Elong Elongation % in 2"

Aluminum Association Chemical Composition Limits (in Weight %)

ALLOY	MAX	%SI	%FE	%CU	%MN	%MG	%CR	%ZN	%TI	%Others	%Others	%AL
7075	MIN	0.40	0.50	2.0	0.30	2.9	0.28	6.1	0.20	0.05	0.15	Rem
				1.2		2.1	0.18	5.1		Each	Total	